

**REMARKS/ARGUMENTS**

This Amendment is being filed in response to the Office Action mailed March 14, 2007. Favorable reconsideration is respectfully requested in light of the above amendments and the following remarks.

**Rejection under 35 U.S.C. § 112, second paragraph**

In paragraph 1 of the Office Action, the Examiner rejected claims 1-18 and 29-34 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential elements. Regarding claims 1, 12, 29 and 34, the Examiner states that the device does not positively recite all of the necessary component features in order to provide a complete functioning device. The Examiner states that the structure must be organized and correlated in such a manner as to present a complete operative device, citing MPEP § 2172.01. The Examiner also states that a feature that is taught as critical in the specification should be recited in the claims, citing MPEP § 2164.08(c).

Applicants respectfully disagree with the rejection of claims 1-18 and 29-34 under 35 U.S.C. § 112, second paragraph. To support the Examiner's rejection, the Examiner cited to MPEP § 2172.01, which states:

A claim which omits matter disclosed to be essential to the invention as described in the specification or in other statements of record may be rejected under 35 U.S.C. 112, first paragraph, as not enabling. *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). See also MPEP § 2164.08(c). (emphasis added).

The Examiner also cited to MPEP 2164.08(c), which states:

A feature which is taught as critical in a specification and is not recited in the claims should result in a rejection of such claim under the enablement provision section of 35 U.S.C. 112. See *In re Mayhew*, 527 F.2d 1229, 1233, 188 USPQ 356, 358 (CCPA 1976). In determining whether an unclaimed feature is critical, the entire disclosure must be considered. Features which are merely preferred are not to be considered critical. *In re Goffe*, 542 F.2d 564, 567, 191 USPQ 429, 431 (CCPA 1976). (emphasis added).

As is readily apparent, an element is only “essential”, in the context of 35 U.S.C. § 112, second paragraph, if it is disclosed to be essential to the invention as described in the specification or is taught as critical in a specification.

The present specification clearly does not disclose that the type of “device” is critical. Instead, the present specification states, for example:

The present invention generally relates to an analyte detector that includes a device that is capable of detecting a charge adjacent to a surface (emphasis added).

(Specification, page 4, lines 11-12).

Figure 1 is a schematic view of a detector 100 having a plurality of molecules 110 bonded to a surface 125 of a device 120, where the device 120 is capable of detecting a charge adjacent to the surface. In one illustrative embodiment, the device 120 can be a Field Effect Transistor (FET), and the surface 125 is between the source and drain of the FET (emphasis added).

(Specification, page 15, lines 10-14).

In this embodiment, the non-continuous metal layer 230 will allow much of the electric field produced by the charge generated by the interaction between the plurality of molecules and the analyte of interest to reach and modulate the channel of a FET, or to be detected by some other detecting device (emphasis added).

(Specification, page 17, lines 5-9). As such, the specification clearly does not state that the use of a FET device is essential to the invention or is taught as critical in a specification, as the Examiner appears to be suggesting. Rather, the specification makes clear that the “device” may be any device that is capable of detecting a charge adjacent to a surface, and one illustrative embodiment, is a FET. There are other known devices that are capable of detecting a charge including, for example, a capacitor.

It is pointed out that claim breadth is not to be equated in indefiniteness. MPEP § 2173.04 states:

Breadth of a claim is not to be equated with indefiniteness. In re Miller, 441 F.2d 689, 169 USPQ 597 (CCPA 1971). If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated

that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph. Undue breadth of the claim may be addressed under different statutory provisions, depending on the reasons for concluding that the claim is too broad.

In the present case, the scope of the subject matter embraced by the claims is clear, and Applicants have not otherwise indicated that they intend the invention to be of a scope different from what is defined in the claim. As such, the claims comply with 35 U.S.C. 112, second paragraph. For these and other reasons, claims 1-18 and 29-34 are believed to fully comply with 35 U.S.C. § 112, second paragraph.

Specifically with respect to claim 12, Applicants are unclear as to the Examiner's rejection of claim 12, as pending claim 12 states that the device is a field effect transistor. For this additional reason, claim 12 is believed to fully comply with 35 U.S.C. § 112, second paragraph.

In paragraph 2 of the Office Action, the Examiner rejected claims 19-28 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential elements amounting to a gap between the steps. For similar reasons to those discussed above, Applicants respectfully submit that claims 19-28 fully comply with 35 U.S.C. § 112, second paragraph.

Specifically with respect to claim 19, the Examiner appears to have incorrectly asserted that the "claim merely recites a step for providing a detector device." A careful reading of claim 19 reveals both a step of bonding a plurality of molecules to a surface of a device, as well as forming an anionic complex between an analyte and the molecules bonded to the surface of the device. For this additional reason, claim 19 is believed to fully comply with 35 U.S.C. § 112, second paragraph.

#### **Rejection under 35 U.S.C. § 102(b)**

Applicants respectfully traverse the Examiner's rejection of claims 1-5, 7, 8, 19-23 and 29-33 under 35 U.S.C. § 102(e) as anticipated by Gu et al., U.S. Patent Publication No. 2005/0265914 A1. In order to anticipate, the cited reference must disclose, prior to the instant filing date, each and every claimed element. At a minimum, this requirement has not been met.

The instant application was filed on December 4, 2003. Gu et al. was filed on June 3, 2005, and was published on December 1, 2005. Neither of these dates, alone, qualify Gu et al. as prior art against the instant application. It is noted that Gu et al. claims priority as a Continuation-in-Part (CIP) of U.S. Patent No. 6,919,730. Applicants have reviewed the parent, and believe that the material cited by the Examiner in the Office Action, and thus the material relied upon by the Examiner in rejecting the pending claims, is not found in the parent application. Therefore, the material relied upon by the Examiner in the present Office Action is only entitled to the June 3, 2005 filing date, and thus is not available as prior art against the pending claims.

Now, the parent patent (U.S. 6,919,730) is, by virtue of its March 18, 2002 filing date, potentially available as prior against the claimed invention. However, while the parent patent application discloses the use of carbon nanotubes, there appears to be no discussion or disclosure of forming an analyte detector that employs a plurality of molecules (having the claimed structure (I)) bonded to a surface of a device, or bonding such molecules to a surface of a device. Thus, the parent application cannot be considered as disclosing the claimed invention, and therefore cannot be considered as anticipatory. Favorable reconsideration is respectfully requested.

**Rejection under 35 U.S.C. § 103(a)**

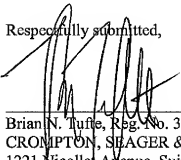
Applicants respectfully traverse the Examiner's rejection of claim 34 under 35 U.S.C. § 103(a) as unpatentable over Gu et al., U.S. Patent Publication No. 2005/0265914 A1, in view of Palti, U.S. Patent No. 5,474,552. As discussed above, Gu et al. is not available as prior art against the pending claims. Also, the Gu parent patent does not appear to disclose the claimed invention. Palti, which is relied upon by the Examiner to suggest inclusion of an insulin pump and controller, does not appear to disclose what the Gu parent patent lacks. As such, claim 34 is believed to be clearly patentable over Gu et al. in view of Palti. Favorable reconsideration is respectfully requested.

**Conclusion**

Reconsideration and reexamination are respectfully requested. It is submitted that, in light of the above remarks, all pending claims are now in condition for allowance. If a telephone interview would be of assistance, please contact the undersigned attorney at 612-359-9348.

Respectfully submitted,

Dated: June 13, 2007



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